

REMARKS

I. The Section 112 Rejection

The Examiner has objected to the disclosure under 37 C.F.R. §1.63(a), on the basis that the specification presents less than a full, clear and complete botanical description of the plant and the characteristics which distinguish the plant from related known varieties. Claim 1 stands rejected under 35 U.S.C. § 112, first and second paragraphs, as not being supported by a clear and complete botanical description of the plant for the reasons set forth in the Examiner's objection to the disclosure.

The Examiner noted that the photograph of the instant variety submitted when the application was filed is blurred and grainy. As suggested by the Examiner, a replacement photograph has been enclosed in duplicate.

The specification has been amended, as suggested by the Examiner, to make a full and complete a disclosure of the plant and the characteristics that distinguish it from other related known varieties and antecedents. With reference to the red-lined version, the specification has been amended at page 2, lines 4 and 9, to change the botanical name from "*Dendranthema grandiflora*" to "*Chrysanthemum morifolium*."

Typographical errors have been corrected at page 2, line 15, and page 5, line 9. At page 2, lines 19-20, the specification has been amended to include the word "flowers" in the description of the variety found in the Brief Summary of the Invention.

The specification has been amended at page 2, line 21, to indicate that it is the female parent variety that is being compared to the variety that is the subject of his application. At page 3, lines 5-14, the specification has been amended to include a comparison of the instant variety with the male parent 'P381D4.'

On page 2, lines 23 and 25, and on page 3, lines 2, 4, 17, 20, 23 and 25, the specification has been amended to properly reflect the use of single quotation marks with cultivar names and eliminate redundant use of the term "cultivar." At page 3, line 18, the U.S. Plant Patent No. 14,155 has been added for the comparison variety 'Scott.'

The specification has been amended at page 4, lines 29-30, to recite the diameter and surface texture for the lateral branches of the instant variety. The stem length and diameter have been added at page 5, line 3-4. The petiole diameter and surface characteristics have been added at page 6, lines 2-4. The diameter and strength for the peduncle and pedicel have been amended at page 6, lines 29 and 33, and page 7, lines 3 and 7.

As requested by the Examiner, the length and diameter of the corolla tube and the length and width of the ray floret spoon have been added at page 7, lines 15-18. The color description of the ray florets has been amended at page 7, line 33 through page 8, line 3, to reflect the color designations for the spoon tip and the corolla tube.

The lastingness of bloom has been added at page 8, line 14, and the reproductive organs description at page 8 has been amended to clarify the observed characteristics of the gynoecium and androecium. At page 8, lines 17 and 23, the specification has been amended to clarify that the number of pistils recited per ray and disc floret is per individual flower.

There are no amendments to the claim or Abstract.

The above amendments to the specification have addressed the Examiner's objections under 37 C.F.R. §1.63, first paragraph and under 35 U.S.C. § 112, first and second paragraphs. Those objections are now overcome. As a consequence, the basis for the Examiner's rejection under 35 U.S.C. § 112, first and second paragraphs, is no longer present and it is respectfully requested that the rejection on this basis be withdrawn.

CONCLUSION

It is respectfully submitted that the Examiner's rejection under 35 U.S.C. § 112 has been overcome by the above-amendments and should be withdrawn. There are no further rejections or objections to the disclosure or the claim and the application is now believed to be in condition for allowance.

No additional fees are believed to be due, however, the U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to Deposit Account No. 08-3038 referencing docket number 10451.0040.NPUS01.

The Examiner is invited to contact the undersigned attorney at (650) 463-8234 regarding any further questions, comments or suggestions relating to this patent application.

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Respectfully submitted,



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(Red-lined version) PLANT PATENT

[File No. 10451.0040.NPUS01]

APPLICATION FOR UNITED STATES PLANT PATENT

for

CHRYSANTHEMUM PLANT NAMED 'STEPS'

by

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This application claims the benefit of U.S. Provisional Application No. 60/396,826, filed July 17, 2002.

LATIN NAME OF THE GENUS AND SPECIES

Botanical classification: ~~*Dendranthema grandiflora*~~ *Chrysanthemum morifolium*.

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VARIETY DENOMINATION

The new Chrysanthemum variety denomination is 'Steps.'

BACKGROUND OF THE INVENTION

The present invention comprises a new and distinct cultivar of Chrysanthemum botanically known as ~~*Dendranthema grandiflora*~~ *Chrysanthemum morifolium*, and referred to by the cultivar name 'Steps'. 'Steps', identified as '21174-0' originated from a cross made in a controlled breeding program in Chichester, West Sussex, United Kingdom. The female parent of the new variety is an undistributed, unpatented seedling identified as 'P371D4.' The male parent of the new variety is an undistributed, unpatented seedling identified as 'P381D4.'

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The new variety 'Steps' has been asexually reproduced by ~~vegetative~~ vegetative cuttings in Chichester, West Sussex, United Kingdom and the distinguishing characteristics are retained through successive generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

'Steps' is a pot type of Chrysanthemum plant variety having dark pink single spoon flowers.

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Comparison with Female Parent

Plants of the new Chrysanthemum variety 'Steps' are dissimilar to the parent ~~cultivar~~ 'P371D4' in plant habitat and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' compared to plants of the parent ~~cultivar~~ 'P371D4' in the following characteristics.

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1. The new variety 'Steps' produces dark pink single spoon flowers whereas the parent ~~cultivar~~ 'P371D4' produces bronze single flowers.
2. Plants of the new variety 'Steps' have similar size and similar height inflorescence to plants of the parent ~~cultivar~~ 'Steps' 'P371D4.'

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Comparison with Male Parent

Plants of the new Chrysanthemum variety 'Steps' are dissimilar to the male parent 'P381D4' in plant habitat and growth rate. In side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' differed from plants of the parent 'P381D4' in the following characteristics.

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1. The new variety 'Steps' produces dark pink single spoon flowers whereas the parent 'P381D4' produces pink single flowers.
2. Plants of the new variety 'Steps' have smaller and shorter inflorescence than plants of the parent 'P381D4'.

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Comparison with Other Varieties

Plants of the new Chrysanthemum variety 'Steps' are similar to the ~~cultivar~~ 'Scott' (U.S. Plant Patent No. 14,155) in plant habitat and growth rate. However, in side-by-side comparisons in Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Steps' compared to plants of the ~~cultivar~~ 'Scott' in the following characteristics.

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1. The new variety 'Steps' produces dark pink single spoon flowers whereas the ~~cultivar~~ 'Scott' produces purple single spoon flowers.
2. Plants of the new variety 'Steps' have larger and taller inflorescence than plants of the ~~cultivar~~ 'Scott'.

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BRIEF DESCRIPTION OF ILLUSTRATIONS

Typical specimens of the plant and flowers for the new Chrysanthemum variety 'Steps' are shown in the accompanying digital photograph. The colors shown are as true

as possible within the usual limits of this kind of illustration. Figure 1 is a whole plant view of the new variety 'Steps' grown in a pot. The plant shown in the illustration is 55 days after the commencement of Short Days.

DETAILED BOTANICAL DESCRIPTION

- 5 The following description of the new Chrysanthemum variety 'Steps' is of plants grown in a greenhouse in Chichester, West Sussex, United Kingdom in the month of February. The cultivar has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in the environment such as temperature, length of day and light intensity, without any variance in genotype. The
10 commercial classification of the new variety is a pot Chrysanthemum.

- Plants of the new variety have been grown successfully under temperature conditions averaging about 18°C at night and about 24°C to 25°C during the day under light conditions of about 5000 to 6000 foot candles. The plants respond well to the use of growth retardant, such as B9 treatment. To produce a commercial product the plants may
15 be pinched once with the center bud removed. The typical container size for commercial growth is 14 cm. It has been observed that the shelf life of the new variety is about 24 days with a response time of about 8 weeks. The new variety is suitable for growth in a temperature range of 17°C to 28°C

- The following description is with respect to a plant produced as pot
20 Chrysanthemum. In the description of this new Chrysanthemum variety, color values have been taken from the Royal Horticultural Society Colour Chart (R.H.S.C.C.).

Plant

Plant type: Pot

Habit: Upright and free branching

- 25 Height: 24 cm

Width: 34 cm

Branching characteristics: Upright and free branching

Length of Lateral Branches: 6-11 cm

Diameter of Lateral Branches: 0.5-0.6 cm

- 30 Texture of Lateral Branches: Slightly pubescent

Number of Breaks from Pinch: 3-5

Stem Color: 137C

Stem Length: 5.5-6 cm

Stem Diameter: 0.6 cm

5 Response Time: 55

Vigor: Medium

Shelf Life: 24 days

Disease/Pest (Susceptibility/Resistance observed): None observed to date

Growth retardant type and treatment: 3 applications of 2.5 gm/~~litre~~liter B9 @ 2, 21 and

10 28 days after sticking of unrooted cuttings.

The plants were grown for 3 weeks in Long Day conditions (20 hours of light) and then transferred to Short Day conditions (13 hours of dark).

Propagation:

Type: Vegetative Propagation Via Stem Cuttings

15 *Time to rooting:* 12-14 days with soil temperatures of 18°C.

Rooting habit: Fine and Fibrous

Other treatments or conditions: None

Foliage

Number of Leaves Per Lateral Branch: 8-10

20 Compound or single: Single

Arrangement of Leaves: Alternate

Shape of Leaf: typically 5 lobed ovate

Size of Leaf: *Width (cm):* 3-7 cm *Length (cm):* 4-10 cm

Leaf Apex: Rounded

25 Base: Acute

Attachment: Petioled

Aspect: Slightly undulating

Margin: Palmetely lobed

Surface characteristics: *Top:* Slightly pubescent

30 *Bottom:* Pubescent

Petiole: *Color:* 137C

Length: 1.5 cm

Diameter: 0.2 cm

Texture: Slightly pubescent

5 Venation: Net prominent midvein at underside

Color: upper side: Near 138B

under side: Near 138C

Color: Mature Leaf, *upper side:* Near 137A; *under side:* Near 138A

Young Leaf, *upper side:* Near 137B; *under side:* Near 137C

10 Flower

Flower appearance: Matte

Flower type: Single

Flower form: Cupped

Flower shape: Circular

15 Flower habit: Cyme

Number of blossoms per branch: 3-5

Inflorescence form: Pyramid

Depth of fully expanded blossoms: 1.5 cm

Diameter of fully expanded blossoms: 8.5 cm

20 Sepals:

Number: 25-30

Outer Color: Near 137C

Length: 0.5-0.8 cm

Width: 0.1-0.3 cm

25 *Texture/Appearance:* Pubescent

Peduncle: Peduncle length is shortest at the terminal flower and progressively longer
moving down the stem

Length: 3 – 10 cm, average 5 cm

Diameter: 0.5-0.6 cm

30 *Color:* Near 137

Surface: Pubescent

Habit: Slightly Curving

Strength: ~~Medium~~ Moderately strong

Pedicel:

- 5 *Length:* terminal: 2.5-6 cm; lateral: 2.5-8 cm
 Diameter: 0.2-0.3 cm
 Color: Near 138B
 Surface: Pubescent
 Habit: Slightly Curving
 Strength: ~~Medium~~ Moderately strong

Ray Florets:

- 10 *Form/Shape:* Spatulate
 Texture/Appearance: Matte
 Number per flower: 30-35
 Length: 2.5 to 5 cm; *Width:* 0.3-1 cm
 Apex: Rounded
 Base: Tubular
 15 *Corolla tube length:* 1 cm
 Corolla tube diameter: 0.2 cm
 Spoon length: 1.5 cm
 Spoon width: 0.3-1 cm
 Margin: Entire

20 Disc florets:

- Form/Shape:* Cylindrical
 Texture/Appearance: Shiny
 Number per flower: 200-300
 Length: 0.6 cm; *Width* 0.1 cm
 25 *Diameter of disc:* 2 cm

Fragrance: None

Flower Bud (at onset of color):

- Length:* 1 cm
 Diameter: 1.2 cm
 30 *Form/shape:* Globular

General flower color:

1. Ray florets, Spoon, *upper side*:
 Immature: Near 67A
 Mature: Near 67B
 Older/Fading: Near 67C
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Corolla tube, inner side: 67A

Corolla tube, outer side: 65B

2. Ray florets, Spoon, under side:

Immature: Near 67B

Mature: Near 67D

Older/Fading: Near 73B

3. Disc florets:

Immature: Near 143A

Mature: Near 144B

Older/Fading: Near 151A

4. Bud: 138B

Flower progression with age: No change in flower form, slight colour fading as flowers mature.

Lastingness of blooms: about 24 days

Reproductive Organs

Gynoecium present on Ray and Disc Florets.

Ray Florets per individual flower: Pistillate

Pistil number: >about 30

Stigma color: Near 5B

Stigma shape: Forked

Style Color: Near 5B

Style Length: 0.5 cm

Disc Florets per individual flower: Pistillate

Pistil Number: >about 30

Stigma color: Near 7A

Stigma shape: Forked

Style Color: Near 7A

Style Length: 0.4 cm

~~Staminate: None observed to date~~ Androecium not observed.

Fruit and Seeds: None observed to date

WHAT IS CLAIMED IS:

1. A new and distinct variety of Chrysanthemum plant, substantially as described and illustrated herein.

ABSTRACT

A new variety of Chrysanthemum plant named 'Steps,' has a good uniform canopy of large dark pink flowers with a yellow/green disc. The new variety has a medium vigor and a free branching and uniform spreading habit with good foliage presentation.

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